

Erect shrubs, 1 m. to 3 m. tall. Stem slender, subterete or obtuse-angular, often narrowly margined, glabrous except for the densely pubescent or tomentose young tops. Leaves opposite, usually with a pair of inter-petiolar, ovate-suborbicular, entire to dentate, 0.3-0.8 cm. long auricles, sub-sessile or on short petioles formed by narrowing leaf base, ovate-lanceolate or elliptic-lanceolate-oblong, with a narrowed acute or rounded base, narrowed upwards into an acute apex, entire-serrate, glabrous above on maturity, white tomentose beneath, 5.21 × 1.5-6 cm. long. Bracts linear-subulate, 0.3-0.5 cm. long, usually hairy. Pedicels 0.1-0.15 cm. long, pubescent. Calyx 0.25-0.3 cm. long, divided less than halfway down, glabrate or hairy, lobes ovate-lanceolate, acute. Corolla 0.8-1 cm. long, tube erect, glabrous without, patent-hairy within, lobes 4, obovate-rounded, crenate-dentate. Anthers sessile, inserted at the middle of corolla-tube, linear, 0.8-1 mm. long. Ovary glabrous. Style clavate. Capsule linear-narrowly oblong, acute, glabrous, 0.6-1 cm. long. Seeds 0.5-0.8 mm. long.

A common shrub of cold weather and usually found along the hill tracks.

Flowers and fruits: July-November.

Specimen examined: HIMACHAL PRADESH, Simla, Jakku hills, *Kanai Lal Mali* 38 (CAL).

This taxon is closely allied to *Buddleja delavayi* Gang.—also a native of China, but this is easily recognizable by the longer and narrower leaves, longer inflorescence and bigger fruits.

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HOWRAH-3,  
August 6, 1969.

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## 29. FURTHER STUDIES ON THE HOST RANGE IN *LORANTHUS LONGIFLORUS* DESV.

It is of particular interest to note that all the species of host plants, hithertofore recorded for *L. longiflorus*, belong to the families of dicotyledons. Monocots in general do not seem to be susceptible to loranthaceous parasites.

In the present investigation, ten more new species of host plants have been recorded by way of experimental observations. Six of these

species belong to five families already reported, while the remaining constitute four more new plant families. Thus there are now totally on record 68 species of host plants, coming under 32 dicot families.

Experiments conducted by allowing the seeds of the parasite to germinate on branches of different new host-species indicate clearly that at least some of them are not susceptible to the parasite. While some monocots have also been tried, none of the seeds grew to attain maturity. Although invariably all the seeds germinate within a fortnight to produce small green leaves and a massive haustorium, the fate of the parasite is decided only when the haustorium penetrates the host tissue. One of the most important factors determining the further growth of the parasite is the osmotic pressure-relationship between the host and the parasite. The study of the osmotic concentration of the host and the parasite is well under way, and this would throw much light on the host-parasite relationship.

The following are the new experimental host species for *L. longiflorus*:

*Tamarix gallica* L. (Tamaricaceae), *Cassia glauca* Lamk. (Caesalpinaceae), *Terminalia catappa* L. (Combretaceae), *Ixora parviflora* Vahl (Rubiaceae), *Mussaenda frondosa* L. (Rubiaceae), *Vernonia elegans* Gardn. (Compositae), *Tabebuia pentaphylla* Hemsl. (Bignoniaceae), *Tectona grandis* L. (Verbenaceae), *Bougainvillea spectabilis* Willd. (Nyctaginaceae), and *Grevillea robusta* A. Cunn. (Proteaceae).

It may be concluded from the foregoing observations that nowhere in the study of angiospermic parasites has there been such a wide range of host plants affected by a single parasitic species and that there is a possibility of this parasite attacking many more species of host plants.

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May 31, 1969.

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[See Note No. 23 which gives the total number of hosts known so far for this species—Eds.]

### 30. ON THE PRODUCTION OF ADVENTITIOUS ROOTS FROM THE EXCISED PETIOLES OF SOME ANGIOSPERMS

(With a photograph)

Previous observations indicate that the production of foliar roots is common in Acanthaceae and Labiatae. The present investigation includes 33 new species of plants, belonging to 13 angiospermic families, as listed below:—

*Portulaca grandiflora* Lindl. (Fig. 1), *Cissus quadrangularis* Linn.